1. Identification

Product identifier: Ammonium Phosphate-Sulfate NPS

Other means of identification:
- Product code: KFI_AMMPHOSULFATE_NPS_CA_EN
- Synonyms: NPS 12-40-0-10, 10-40-0-10, NPS 12-46-0-7, 12-46-0-7

Recommended use: Fertiliser.

Recommended restrictions: None known.

Manufacturer/Importer/Supplier/Distributor information
- Company name: Koch Fertilizer International Limited
- Address: 4th Floor, 20 Gresham Street, London, United Kingdom EC2V 7JE
- Telephone: 1.316.828.7672
- e-mail: kochmsds@kochind.com
- Emergency phone number: USA/Canada - 1.800.424.9300, Outside USA/Canada - 1.703.527.3887

2. Hazard(s) identification

Physical hazards: Not classified.

Health hazards: Not classified.

Environmental hazards: Not classified.

Label elements:
- Hazard symbol: None.
- Signal word: None.
- Hazard statement: The mixture does not meet the criteria for classification.

Precautionary statements:
- Prevention: Observe good industrial hygiene practices.
- Response: Wash hands after handling.
- Storage: Store away from incompatible materials.
- Disposal: Dispose of waste and residues in accordance with local authority requirements.

Other hazards: None known.

Supplemental information: Not applicable.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monoammonium phosphate</td>
<td>7722-76-1</td>
<td>55 - 75</td>
</tr>
<tr>
<td>Ammonium sulfate</td>
<td>7783-20-2</td>
<td>5 - 10</td>
</tr>
<tr>
<td>Sulphur</td>
<td>7704-34-9</td>
<td>4 - 6</td>
</tr>
<tr>
<td>Diammonium phosphate</td>
<td>7783-28-0</td>
<td>1 - 5</td>
</tr>
</tbody>
</table>

Composition comments: All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

This Safety Data Sheet is not a guarantee of product specification or NPK value(s). NPK content is on specified sales orders, customer invoices, or product specification sheets obtained from supplier.
4. First-aid measures

**Inhalation**
Move to fresh air. Get medical attention if any discomfort continues.

**Skin contact**
Wash contact areas with soap and water. Get medical attention if irritation develops and persists.

**Eye contact**
Dust in the eyes: Do not rub eyes. Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if irritation persists after washing.

**Inhalation**
Rinse mouth thoroughly. Get medical attention if any discomfort continues.

**Most important symptoms/effects, acute and delayed**
Eye contact: Symptoms can include irritation, redness, scratching of the cornea, and tearing. Skin contact: May cause mild skin irritation. Dust may irritate throat and respiratory system and cause coughing.

**Indication of immediate medical attention and special treatment needed**
Treat symptomatically.

**General information**
Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

**Suitable extinguishing media**
Use fire-extinguishing media appropriate for surrounding materials.

**Unsuitable extinguishing media**
None known.

**Specific hazards arising from the chemical**
During fire, gases hazardous to health may be formed.

**Selection of respiratory protection for firefighting**
Follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire fighting equipment/instructions**
Move containers from fire area if you can do it without risk. Use water spray to prevent dust formation, absorb heat, keep containers cool and protect fire-exposed material.

6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**
Avoid inhalation of dust and contact with skin and eyes. Ensure adequate ventilation. Wear suitable protective clothing. Use personal protection recommended in Section 8 of the SDS.

**Methods and materials for containment and cleaning up**
Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk. Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. After removal flush contaminated area thoroughly with water.

**Environmental precautions**
Never return spills to original containers for re-use.

**Methods and materials for containment and cleaning up**
Prevent further leakage or spillage if safe to do so. Do not contaminate water. Do not allow to enter drains, sewers or watercourses.

7. Handling and storage

**Precautions for safe handling**
Avoid generation and spreading of dust. Avoid inhalation of dust and contact with skin and eyes. Use only with adequate ventilation. Observe good industrial hygiene practices. Use work methods which minimise dust production. Keep the workplace clean.

**Conditions for safe storage, including any incompatibilities**
Keep container tightly closed. Store in a well-ventilated place. Store in a cool, dry place. Store away from incompatible materials. Store in a cool, dry, well-ventilated place.

8. Exposure controls/personal protection

**Occupational exposure limits**
No exposure limits noted for ingredient(s).

**Biological limit values**
No biological exposure limits noted for the ingredient(s).

**Provide adequate ventilation. Observe Occupational Exposure Limits and minimise the risk of inhalation of dust.**

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**
Use tight fitting goggles if dust is generated.

**Skin protection**

**Hand protection**
Risk of contact: Wear protective gloves. Suitable gloves can be recommended by the glove supplier.
Risk of contact: Wear appropriate clothing to prevent any possibility of skin contact.

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Wear air supplied respiratory protection if exposure concentrations are unknown. In case of inadequate ventilation or risk of inhalation of dust, use suitable respiratory equipment with particle filter.

Wear appropriate thermal protective clothing, when necessary.

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Handle in accordance with good industrial hygiene and safety practices.

9. Physical and chemical properties

Appearance

Physical state Solid.
Form Granular solid.
Colour Gray or white.
Odour Odourless.
Odour threshold Not available.

pH 4 (10% solution)

Melting point/freezing point 197 °C (386.6 °F) Decomposes before melting.

Flash point Not applicable.

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%). Not available.
Flammability limit - upper (%). Not available.

Vapour density Not applicable.

Partition coefficient (n-octanol/water) Not available.

Decomposition temperature 190 °C (374 °F)

Viscosity Not available.

Other information

Bulk density 920 - 980 kg/m³ at 68°F (20°C) Loose
970 - 1040 kg/m³ at 68°F (20°C) Tapped

Explosive properties Not explosive.

Oxidising properties Not oxidising.

10. Stability and reactivity

Reactivity The product is non-reactive under normal conditions of use, storage and transport.

Chemical stability Stable at normal conditions.

Possibility of hazardous reactions Hazardous polymerisation does not occur.

Conditions to avoid Moisture. High temperatures. Contact with incompatible materials.

Incompatible materials Strong oxidising agents.


11. Toxicological information

Information on likely routes of exposure

Inhalation High concentrations of dust may irritate throat and respiratory system and cause coughing.

Skin contact Dust may irritate skin.

Eye contact Dust may irritate the eyes.
Ingestion
May cause discomfort if swallowed.

Symptoms related to the
physical, chemical and
toxicological characteristics
Eye contact: Symptoms can include irritation, redness, scratching of the cornea, and tearing.
Skin contact: May cause mild skin irritation.
Dust may irritate throat and respiratory system and cause coughing.

Information on toxicological effects

Acute toxicity
May cause discomfort if swallowed.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium sulfate (CAS 7783-20-2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td>Inhalation</td>
<td>Rat</td>
</tr>
<tr>
<td></td>
<td>Oral</td>
<td>Rat</td>
</tr>
<tr>
<td></td>
<td>LD50</td>
<td>Rat</td>
</tr>
<tr>
<td></td>
<td>LD50</td>
<td>Rat</td>
</tr>
<tr>
<td>Diammonium phosphate (CAS 7783-28-0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td>Dermal</td>
<td>Rat</td>
</tr>
<tr>
<td></td>
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<td>Sulphur (CAS 7704-34-9)</td>
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<tr>
<td>Acute</td>
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<td>Rat</td>
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<tr>
<td></td>
<td>Inhalation</td>
<td>Rat</td>
</tr>
<tr>
<td></td>
<td>Oral</td>
<td>Rat</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation
May cause irritation through mechanical abrasion.

Serious eye damage/eye irritation
May cause irritation through mechanical abrasion.

Respiratory or skin sensitisation

Respiratory sensitisation
Based on available data, the classification criteria are not met.

Skin sensitisation
Not a skin sensitiser.

Germ cell mutagenicity
Based on available data, the classification criteria are not met.

Carcinogenicity
This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Reproductive toxicity
Based on available data, the classification criteria are not met.

Specific target organ toxicity -
single exposure
Based on available data, the classification criteria are not met.

Specific target organ toxicity -
repeated exposure
Based on available data, the classification criteria are not met.

Aspiration hazard
Not an aspiration hazard.
Chronic effects  
Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases.

Further information  
No other specific acute or chronic health impact noted.

12. Ecological information

Ecotoxicity  
The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

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<th>Test results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium sulfate (CAS 7783-20-2)</td>
<td>Fish LC50</td>
<td>173 mg/l, 96 hours</td>
</tr>
<tr>
<td></td>
<td>Aquatic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Algae EC50</td>
<td>2700 mg/l, 18 days</td>
</tr>
<tr>
<td></td>
<td>Crustacea EC50</td>
<td>&gt; 100 mg/l, 96 hours</td>
</tr>
<tr>
<td>Diammonium phosphate (CAS 7783-28-0)</td>
<td>Aquatic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crustacea LC50</td>
<td>1790 mg/l, 72 hours</td>
</tr>
<tr>
<td></td>
<td>Fish LC50</td>
<td>1700 mg/l, 96 hours</td>
</tr>
<tr>
<td>Sulphur (CAS 7704-34-9)</td>
<td>Aquatic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crustacea EC50</td>
<td>&gt; 5 µg/l, 48 hours</td>
</tr>
<tr>
<td></td>
<td>Fish LC50</td>
<td>&gt; 5 µg/l, 96 hours</td>
</tr>
</tbody>
</table>

Persistence and degradability  
No data available.

Bioaccumulative potential  
No data available.

Mobility in soil  
This product is water soluble and may disperse in soil.

Other adverse effects  
No data available.

13. Disposal considerations

Disposal instructions  
Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.

Hazardous waste code  
Not regulated.

Waste from residues / unused products  
Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

Contaminated packaging  
Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

TDG  
Not regulated as dangerous goods.

IATA  
Not regulated as dangerous goods.

IMDG  
Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code  
Not applicable. However, the product is covered under Appendix I of the IMSBC Code.

15. Regulatory information

Canadian regulations  
This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

Controlled Drugs and Substances Act  
Not regulated.

Export Control List (CEPA 1999, Schedule 3)  
Not listed.

Greenhouse Gases  
Not listed.
Precursor Control Regulations
Not regulated.

International regulations
Stockholm Convention
Not applicable.
Rotterdam Convention
Not applicable.
Kyoto protocol
Not applicable.
Montreal Protocol
Not applicable.
Basel Convention
Not applicable.

International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Issue date 04-November-2016
Revision date -
Version No. 01

List of abbreviations
LC50: Lethal Concentration, 50%.
LD50: Lethal Dose, 50%.

References
ECHA CHEM
EPA: Acquire database
HSDB® - Hazardous Substances Data Bank
RTECS

Disclaimer
NOTICE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Safety Data Sheet (SDS) and was prepared pursuant to Government regulation(s) that identify specific types of information to be provided. This SDS may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, expressed or implied, is made as to the accuracy or comprehensiveness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. Additional information may be needed to evaluate other uses of the product, including use of the product in combination with any materials or in any processes other than those specifically referenced. Information provided herein with respect to any hazards that may be associated with the product is not meant to suggest that use of the product in a given application will necessarily result in any exposure or risk to workers or the general public. No responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product. Purchasers and users assume all risk of use, storage and handling of the product in compliance with applicable federal, state and local laws and regulations. Purchasers and users of the product specifically should advise all of their employees, agents, contractors and customers who will use the product of this (M)SDS.